

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: : Customer No.: 9309
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David Brian JACKSON : Attorney Ref.: 010-0011-US
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Serial No.: 10/530,583 : Art Unit: 2154
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Filed: April 7, 2005 : Examiner: Haresh N. Patel
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FOR: SYSTEM AND METHOD FOR PROVIDING ADVANCED RESERVATIONS IN
A COMPUTE ENVIRONMENT

RESPONSE TO RESTRICTION REQUIREMENT

**MAIL STOP: Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450**

Dear Sir:

Responsive to the non-final Office Action dated February 20, 2007, kindly enter the following amendment and remarks.

Amendments to the Claims begin on page 2 of this paper.

Remarks begin on page 8 of this paper.

AMENDMENT

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) A method of dynamically modifying resources within a compute environment, the method comprising:
 - receiving a request for resources in the compute environment;
 - monitoring events after receiving the request for resources; and
 - based on the monitored events, dynamically modifying at least one of the request for resources and the compute environment.
2. (Original) The method of claim 1, wherein the compute environment is one of a compute farm, a cluster environment and a grid environment
3. (Original) The method of claim 1, wherein the request for resources is a request for consumption resources.
4. (Original) The method of claim 1, wherein the request for resources is a request for provisioning services.
5. (Original) The method of claim 1, wherein the request for resources is a request to process a batch job.
6. (Original) The method of claim 1, wherein the request for resources is a request for direct volume access.
7. (Original) The method of claim 1, wherein the request for resources is a request for a virtual private cluster.
8. (Original) The method of claim 1, wherein monitoring events after receiving the request for resources further comprises monitoring the compute environment.
9. (Original) The method of claim 1, wherein monitoring events after receiving the request for resources further comprises monitoring to determine if a party submitting the request has

submitted a job for processing once resources in the compute environment are reserved for the job.

10. The method of claim 9, wherein if the party submitting the request for resources has not submitted a job for processing after a predetermined amount of time, then dynamically modifying the request for resources further comprises canceling the request for resources.

11. (Original) The method of claim 10, wherein a job comprises one of a reservation, an object that monitors policy, an object that monitors credentials, an object that monitors node states and an object that monitors the compute environment.

12. (Original) The method of claim 11, wherein based on the monitored events in the compute environment, modifying the compute environment further comprises dynamically modifying the compute environment to satisfy the request for resources.

13. (Original) The method of claim 12, wherein dynamically modifying the compute environment further comprises at least one of: modifying at least one node, modifying at least one operating system, installing end user applications, dynamically partitioning node resources and adjusting network configuration.

14. (Original) The method of claim 1, wherein the request for resources is a request for a reservation of resources in the compute environment.

15. (Original) The method of claim 14, wherein monitoring events after receiving the request for a reservation further comprises monitoring compute resources associated with the reservation.

16. (Original) The method of claim 15, further comprising dynamically modifying the compute environment to more adequately process jobs submitted within the reservation.

17. (Original) The method of claim 1, wherein modifying the request for resources comprises migrating a reservation to be associated with new resources.

18. (Original) The method of claim 17, wherein migrating the reservation is one of a migration in space and a migration in time to the new resources.

19. (Original) The method of claim 17, wherein the new resources better meet needs associated with the request for resources.
20. (Original) The method of claim 18, wherein the migration in time seeks to create a reservation at the earliest time possible.
21. (Original) The method of claim 18, wherein the migration in time seeks to create a reservation based on availability of resources in the compute environment.
22. (Original) The method of claim 18, wherein the migration in space comprises migrating the reservation to resources that will provide better performance of the compute environment for the request for resources.
23. (Original) The method of claim 18, wherein the migration in space comprises migrating the reservation to resources according to a failure or projected failure of resources.
24. (Original) The method of claim 1, wherein monitoring events after receiving the request for resources further comprises monitoring a job submitted within a reservation based on the request.
25. (Original) The method of claim 24, wherein if the job submitted within the reservation will extend beyond the reservation, the method further comprises canceling the job.
26. (Original) The method of claim 25, wherein prior to canceling the job, the method further comprises presenting to the entity that submitted the job an option of extending the reservation to accommodate the job.
27. (Original) The method of claim 26, wherein the option of extending the reservation to accommodate the job is subject to pre-established policies.
28. (Original) The method of claim 27, further comprising presenting to the entity, with the option of extending the reservation, a pricing option to extend the reservation.
29. (Original) The method of claim 1, wherein the request for resources in a compute environment comprises a reservation of resources for a window of time in which at least one user can submit personal reservations.

30. (Original) The method of claim 29, wherein personal reservations are one of a non-administrator reservation and an administrator reservation.

31. (Original) The method of claim 29, wherein the reservation of compute resources for a window of time is a request for cluster resources for a periodic window of time.

32. (Original) The method of claim 31, wherein the periodic window of time may be daily, weekly, monthly, quarterly or yearly.

33. (Original) The method of claim 29, further comprising:

receiving a personal reservation for the use of compute resources within the window of time; and

providing access to the reserved compute resources for the personal reservation to process jobs.

34. (Original) The method of claim 33, wherein if a received consumption job associated with the personal reservation will exceed the window of time for the reservation of compute resources, then the method comprises canceling and locking out the personal reservation from access to the compute resources.

35. (Original) The method of claim 33, wherein if a received consumption job associated with the personal reservation will exceed the window of time, then the method comprises never starting the consumption job.

36. (Original) The method of claim 34, further comprising, before canceling and locking out the personal reservation, the step of:

presenting to a user who submitted the personal reservation an option of allowing the jobs running within the personal reservation to complete although it is beyond the window of time for their reservation of compute resources.

37. (Original) The method of claim 34, further comprising, if the job submitted under a personal reservation would exceed the personal reservation, extending the personal reservation to meet the needs of the job.

38. - 43. (Cancelled)

44. (Original) A computer-readable medium storing instructions for controlling a computing device to dynamically manage resources within a compute environment, the instructions comprising:

- receiving a request for resources in the compute environment;
- monitoring events after receiving the request for resources; and
- based on the monitored events, dynamically modifying at least one of the request for resources and the compute environment.

45. (Original) A system for dynamically managing resources within a compute environment, the system comprising:

- means for receiving a request for resources in the compute environment;
- means for monitoring events after receiving the request for resources; and
- based on the monitored events, means for dynamically modifying at least one of the request for resources and the compute environment.

46. (Original) A system for dynamically managing resources within a compute environment, the system comprising:

- a module configured to receive a request for resources in the compute environment;
- a module configured to monitor events after receiving the request for resources; and
- a module configured to dynamically modify at least one of the request for resources and the compute environment based on the monitored events.

47. (Original) A compute environment comprising a plurality of computing devices, the compute environment having resources which are dynamically managed according to a method comprising:

- receiving a request for resources in the compute;
- monitoring events after receiving the request for resources; and
- based on the monitored events, dynamically modifying at least one of the request for resources and the compute environment.

REMARKS

Applicants hereby elect Group I, claims 1-37 and 44-47. Claims 38-43 have been cancelled and pursued in a divisional application.

If necessary, the Commissioner for Patents is authorized to charge or credit the **Law Office of Thomas M. Isaacson, LLC, Account No. 50-2960** for any deficiency or overpayment.

Respectfully submitted,

Date: May 21, 2007

By: _____

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